Amendments to the Claims:

Page 17 line 1, please delete the centered heading "Claims" and insert therefore beginning at the left hand margin --WHAT IS CLAIMED IS:--.

This listing of the claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

Claims 1-31 (canceled)

32. (New) A method for determining an autofluorescence value of clinically healthy skin tissue of a patient, comprising:

irradiating material of said skin tissue with electromagnetic excitation radiation;

measuring an amount of electromagnetic, fluorescent radiation emitted by said material in response to said irradiation; and

generating, in response to said measured amount of fluorescent radiation, a signal which represents a determined autofluorescence value for the respective patient;

wherein said skin tissue is intact skin tissue *in vivo* of which a surface is irradiated noninvasively and simultaneously in its entirety, the excitation radiation including radiation having a wavelength in the range of 300 to 420 nm, wherein fluorescent radiation emitted in response to said irradiation is simultaneously received from different portions of the skin surface, and wherein the surface area of the skin surface from which fluorescent radiation is received is at least 0.1 cm^2.

33. (New) A method according to claim 32, wherein in response to at least one determined autofluorescence value an advanced glycation/glycosylation end product content for said patient is determined and signaled.

34. (New) A method according to claim 32, wherein a first skin surface is simultaneously irradiated, wherein fluorescent radiation which in response to said irradiation comes from different portions of a second skin

surface within said first skin surface is simultaneously received via a measuring window with a particular surface, and wherein said second skin surface is greater than the surface of said measuring window.

35. (New) A method according to claim 34, wherein said second skin surface is at least three times greater than the surface of said measuring window.

36. (New) A method according to claim 32, wherein said fluorescent radiation is received via a measuring window and wherein said measuring window is held at an angle of 25-65° and preferably of about 45° relative to the irradiated surface of the skin.

37. (New) A method according to claim 32, wherein said fluorescent radiation is received via a measuring window and wherein said measuring window is held at a distance from the skin.

38. (New) A method according to claim 32, wherein the irradiation with electromagnetic excitation radiation in a first wavelength range and the measurement of emitted electromagnetic fluorescent radiation in a second wavelength range outside said first wavelength range takes place simultaneously with the irradiation, while all wavelengths of said first wavelength range are smaller than all wavelengths of said second wavelength range, and said first wavelength range comprises a wavelength in a range of 300-420 nm, and said second wavelength range comprises a longer wavelength in a range of ≤600 nm.

39. (New) A method according to claim 32, further comprising determining an aggregated amount of detected electromagnetic radiation over a particular wavelength range, while determining said autofluorescence value occurs in response to said aggregated amount of detected electromagnetic radiation.

40. (New) A method according to claim 32, further comprising: passing radiation coming from said skin tissue to a spectrometer, dividing received radiation within a measuring range of wavelengths into fractions per wavelength sub-range, and aggregating detected fractions of fluorescent radiation to an aggregated amount of detected electromagnetic radiation, while determining said autofluorescence value occurs in response to said aggregated amount of detected electromagnetic radiation.

41. (New) A method according to claim 32, further comprising detecting reflected excitation radiation, while generating said autofluorescence value occurs partly in response to a detected amount of said electromagnetic

excitation radiation.

42. (New) A method according to claim 41, wherein reflected excitation radiation is detected by a first detector and wherein said fluorescent radiation is detected by another, separate detector.

43. (New) A method according to claim 32, wherein said fluorescent radiation coming from at least a portion of said irradiated skin surface is detected after the irradiation of said at least one portion of said skin surface has been changed.

44. (New) A method according to claim 43, wherein said fluorescent radiation is detected in at least one wavelength corresponding with at least one wavelength of said excitation radiation.

45. (New) A method according to claim 43, wherein said excitation radiation is emitted in a pulsating or modulated fashion.

46. (New) A method according to claim 32, further comprising performing a reference measurement on a reference material, while generating said signal occurs partly in response to at least one amount of electromagnetic radiation detected in said reference measurement.

47. (New) An apparatus for determining an autofluorescence value of clinically healthy skin tissue of a patient, comprising:

a pick-up unit with a radiation source, for *in vivo* and noninvasively irradiating a surface of intact skin tissue behind an irradiation window with electromagnetic excitation radiation including radiation having a wavelength in the range of 300 to 420 nm;

a detector for measuring electromagnetic fluorescent radiation received from a surface area of said skin tissue surface behind said irradiation window of at least 0.1 cm^2; and

means for generating an autofluorescence value for said skin tissue in agreement with a measured amount of fluorescent radiation originating from said surface area of said skin tissue.

48. (New) An apparatus according to claim 47, further comprising means for determining and signaling in response to at least one determined autofluorescence value an advanced glycation/glycosylation end product content for said patient.

49. (New) An apparatus according to claim 47, wherein the irradiation window is adapted to determine a first surface of said skin tissue to be irradiated, further comprising a measuring window with a surface for passing fluorescent radiation to be detected coming from a second surface within said

first surface, said second surface being greater than the surface of said measuring window.

50. (New) An apparatus according to claim 49, wherein said second surface is at least three times greater than the surface of said measuring window.

51. (New) An apparatus according to claim 47, further comprising a supporting structure to be held against a skin of a patient, for defining a plane in which a surface of said skin tissue to be irradiated is located, wherein the supporting structure supports the measuring window for passing light to be detected coming from said irradiated skin tissue, said measuring window being oriented at an angle of 25-65°, preferably at an angle of about 45° relative to said surface.

52. (New) An apparatus according to claim 51, wherein said supporting structure comprises an irradiation window for delimiting a surface of said skin tissue to be irradiated, said measuring window being located adjacent an edge of said irradiation window.

53. (New) An apparatus according to claim 47, wherein said measuring window is spaced away from the passage surface of said surface.

54. (New) An apparatus according to claim 47, wherein the position of the measuring window relative to said surface is adjustable for adjusting the distance between said measuring window and said irradiation window.

55. (New) An apparatus according to claim 47, further comprising an optical filter between said radiation source and said irradiation window.

56. (New) An apparatus according to claim 47, wherein said radiation source is an electrofluorescent lamp for emitting radiation in a wavelength range of 300-420 nm.

57. (New) An apparatus according to claim 47, wherein said radiation source is a light-emitting diode or laser diode for emitting radiation having at least one wavelength in a wavelength range of 300-420 nm, and preferably for emitting radiation having a wavelength of 370 nm.

58. (New) An apparatus according to claim 47, further comprising a spectrometer connected with said measuring window for receiving radiation passing through said measuring window.

59. (New) An apparatus according to claim 47, further comprising separate detectors for detecting reflected excitation radiation and fluorescent radiation.

60. (New) An apparatus according to claim 47, further comprising

control means for changing the excitation radiation such that it is different in a second irradiation period than in a first irradiation period.

61. (New) An apparatus according to claim 60, adapted for intermittently irradiating said skin tissue and for separately detecting radiation coming from said skin tissue in periods alternating with said intermittent irradiation.